

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. Please amend the claims as indicated.

1. (currently amended) A method for treating a lignocellulosic substrate, the method comprising:

implanting the lignocellulosic substrate with ~~cocoalkylamine~~ cocoalkylamine that increases the conductivity of the lignocellulosic substrate without covalently bonding to the lignocellulosic substrate or chemically reacting with the lignocellulosic substrate;

pre-heating the implanted lignocellulosic substrate;

coating the pre-heated implanted lignocellulosic substrate with a powder coating;

and

curing the powder coated substrate.

2. (original) The method of claim 1 wherein the lignocellulosic substrate comprises a wood or wood composite.

3. (original) The method of claim 1 wherein the conductive material is in a liquid form.

4. (original) The method of claim 3 wherein the liquid conductive material is implanted into the substrate by spraying, dipping, brushing, or chemical vapor deposition.

5. (currently amended) The method of claim 1 wherein the conductive material is in a gas gaseous form.

6. (original) The method of claim 5 wherein the gas conductive material is implanted into the substrate by chemical vapor deposition, plasma source ion implantation, or diffusion.

7. (original) The method of claim 1 wherein the conductive material is in a solid form.

8. (previously presented) The method of claim 7 wherein the solid conductive material is implanted into the substrate by diffusion.

9. (currently amended) The method of claim 1 wherein the substrate is pre-heated by a furnace, or infra-red heat source.

10. (previously presented) The method of claim 1 wherein the powder is selected from the group consisting of epoxy, acrylic, and polyester.

11. (original) The method of claim 1 wherein the powder is cured thermally, via ultraviolet light radiation, or via electron-beam radiation.

12. (currently amended) A method for implanting a lignocellulosic substrate, the method comprising:

applying a solution comprising a liquid component and a ~~coalkylamine~~ cocoalkylamine to the lignocellulosic substrate;

allowing the ~~coalkylamine~~ cocoalkylamine to implant into the lignocellulosic substrate to increase the conductivity of the lignocellulosic substrate without covalently bonding or chemically reacting with the lignocellulosic substrate; and

removing at least some of the liquid component from the lignocellulosic substrate whereby the lignocellulosic substrate is enabled to provide an electrically conductive substrate for a subsequent electrostatic coating process.

13. (original) The method of claim 12 wherein removing at least some of the liquid component includes heating the lignocellulosic substrate.

14. (original) The method of claim 13 wherein the application of solution to the lignocellulosic substrate is repeated after the heating.

15. (original) The method of claim 13 wherein the application of solution to the lignocellulosic substrate is repeated prior to the heating.

16. (currently amended) The method of claim 12 wherein the ~~coalkylamine~~ cocoalkylamine comprises a polyoxyethylene ~~coalkylamine~~ cocoalkylamine.

17. (currently amended) The method of claim 12 wherein the ~~coalkylamine~~ cocoalkylamine is Cocoalkylmethylbis(2-hydroxyethyl) ammonium chloride.

18. (cancelled).

19. (currently amended) The method of claim 12 wherein the ~~coalkylamine~~ cocoalkylamine is polyoxyethylene (15) cocoalkylamines.

20. (cancelled).

21. (currently amended) A method for powder coating a medium density fiberboard (MDF) substrate, the method comprising the steps of:

treating the MDF substrate with a solution including a ~~coalkylamine~~
cocoalkylamine and a solvent;

allowing the ~~coalkylamine~~ cocoalkylamine to implant into the MDF substrate to increase the conductivity of the MDF substrate without covalently bonding or chemically reacting with the MDF substrate;

heating the implanted MDF substrate to remove a majority of the solvent;

applying an electrical voltage to the heated MDF substrate; and

applying a charged coating substance to the voltage applied MDF substrate.

22. (previously presented) The method of claim 21 wherein the applied voltage is electrical ground.

23. (previously presented) The method of claim 21 wherein the heating step is performed at a substrate temperature from about 100° to 400° F.